Groundwater
& Environmental Services, Inc.

6160 Fairmount Avenue • Suite A • San Diego, California 92120 • (619) 299-0033 • Fax (619) 299-0087

CORRECTIVE ACTION PLAN
2702-2732 Lytton Street and 3000-3006 Barnett Avenue
San Diego, California

Prepared for:

Mr. Al Apuzzo
GEM PROPERTIES
402 West Broadway, Suite 2900
San Diego, California 92101

Mr. Danny Martinez
COUNTY OF SAN DIEGO
Department of Environmental Health
Site Assessment Mitigation Program
P.O. Box 129261
San Diego, California 92112-9261

Prepared by:

GROUNDWATER & ENVIRONMENTAL SERVICES
6160 Fairmount Avenue, Suite A
San Diego, California 92120
(619) 299-0033 • FAX (619) 299-0087

Project 3100029
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Prepared by:

Casey Poldino
Staff Scientist

Reviewed by:

John Royal, PG 6757
Principal Hydrogeologist

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1.0 INTRODUCTION

Groundwater & Environmental Services, Inc,[1] (GES), in compliance with Section 2725, Article 11, Chapter 16, Division 3, Title 23, California Code of Regulations, herein submits the Corrective Action Plan (CAP) for the subject site located at 2702-2732 Lytton Street and 3000-3006 Barnett Avenue in San Diego, California (Figure 1). Historical records indicate that a gasoline service station formerly operated at the site from approximately 1938 to 1957. In a letter dated July 21, 2005, the County of San Diego Department of Environmental Health, Site Assessment Mitigation Program (SAM) requested that a CAP be prepared for the subject site.

2.0 BACKGROUND/IMPACT ASSESSMENT

The Matchinski Family has been identified as the responsible party for the site addressed as 2702-2732 Lytton Street and 3000-3006 Barnett Avenue in San Diego, California, located 1.6 miles west of Interstate 5 and 1.1 miles south of Interstate 8. The site is located in a commercially zoned area 600 feet north of San Diego Bay. According to a Phase I Environmental Site Assessment (ESA) prepared by Southern California Soil and Testing (SCST) on March 22, 2002, historical records indicate a gasoline service station formerly operated onsite. Historical directories in 1938 and 1957 listed the tenant as H.E. Moore Gas Station. A permit from the City of San Diego Fire Department was granted to Admiral Service Station and dated February 24, 1931, for the installation of one 50-gallon tank to store naptha. EnecoTech found listings in the Polk City Directory at the San Diego City Library for Admiral Service Station in 1926, 1930, 1932, and 1936. The Matchinski Family also holds records that indicate a site lease to Shell Oil Company. Based upon the available data, it is clear that the site operated as a gasoline station for approximately 30 years, which is sufficient evidence that USTs were present at the site. The subject site is identified as assessors parcel number 450-450-03, 07.

EnecoTech was retained by Gem Properties (Client) to perform a Phase II ESA. On July 8, 2003, and September 10, 2003, site assessment activities began at the subject site. These activities included the placement of fourteen soil borings (HA1 through HA14) and the collection of soil and groundwater samples to assess subsurface conditions (Figure 2). Laboratory results for these samples are presented in Tables 1 and 2. Hydrocarbon impact was detected in soil and groundwater samples collected. Soil impact was greatest in soil boring HA9 performed inside the building now occupied by Empty Tomb Choppers, and groundwater impact was greatest in soil boring HA6 located in the parking area northwest of the existing buildings. Based upon the data collected, impact to soil was delineated. Individual reports of these site assessment activities were submitted to the Client on August 15, 2003, and September 24, 2003.

In an effort to locate the USTs or former tankpit, the likely source of hydrocarbon impact at the site, EnecoTech performed a geophysical survey. The results of the survey identified two anomalies located west of the onsite buildings. EnecoTech mobilized to the subject site on May 25, 2004, to perform exploratory soil borings (EB1 through EB8) to assess whether the anomalies identified during the geophysical survey were components of a former fueling system (USTs or product piping). No indication of a tank or product piping was encountered in the soil borings. Laboratory results for soil samples collected from the exploratory borings are presented in Table 3.

On July 7, 2004, EnecoTech installed four permanent monitoring wells (MW1 through MW4) in an attempt to assess groundwater impact. The results of soil and groundwater samples confirmed the findings of the previous investigation performed by EnecoTech. Soil and groundwater impact appeared to be limited primarily to an area beneath the western edge of the onsite buildings and west of the existing buildings. A comprehensive site assessment report dated September 10, 2004, was submitted to SAM detailing the results of the Phase II ESA. Laboratory results for soil samples collected from borings B1, B2, B3, and B4 are presented in Tables 4 and 5, and results for groundwater samples collected from MW1, MW2, MW3, and MW4 are presented in Tables 6 and 7.

[1] Groundwater & Environmental Services, Inc. purchased substantially all assets of EnecoTech, Inc. on April 22, 2005.

In a letter dated September 28, 2004, SAM requested that a work plan be submitted for the installation of an additional monitoring well south of the site to further assess soil and groundwater impact. EnecoTech submitted a work plan, which was approved in a letter from SAM dated December 17, 2004, and proceeded with obtaining an encroachment permit from the City of San Diego.

On March 7, 2005, EnecoTech installed one additional monitoring well (MW5) to further assess soil and groundwater impact. Hydrocarbon impact was detected in soil and groundwater samples collected. Analytical results for soil samples collected from MW-5 are presented in Tables 8 and 9. TPHg, TPHd and benzene concentrations in soil are presented in Figure 3. An Additional Site Assessment report dated April 20, 2005, was submitted to SAM detailing the results of the well installation.

The five monitoring wells were sampled on March 11, 2005, and again on June 23, 2005. Analytical results for groundwater from these sampling events were added to Tables 6 and 7. TPHg, TPHd, benzene, and MTBE concentrations from the latest sampling event are presented in Figure 4. Groundwater elevations are presented in Table 10. The groundwater contour map from the June 23, 2005, sampling event is presented in Figure 5. Groundwater was collected during high tide in the March 2005 sampling event and low tide during the June 2005 sampling event. Groundwater was shown to flow away from San Diego Bay during high tide and toward San Diego Bay during low tide. Gasoline and BTEX constituents decreased in concentration from the March 2005 event to the June 2005 event. Fuel oxygenates have never been detected in any of the monitoring wells.

2.1 Geologic Characteristics of the Site

According to the Geology of the Point Loma Quadrangle Geologic Map (1975), the site is underlain by Bay Point Formation and Artificial Fill. The artificial fill consists of dusky yellowish brown, damp, sand, and gravel. The Bay Point Formation consists of moderate brown, damp to saturated silty sand with clay and was encountered at a depth of approximately 2 feet to 4 feet below ground surface (bgs). Saturated soil and groundwater were encountered at approximately 12 feet bgs. Soil boring logs for past site investigations were provided in previous EnecoTech reports.

2.2 Hydrogeologic Characteristics

According to the Regional Water Quality Control Board (RWQCB), San Diego Region 9 Water Quality Control Plan for the San Diego Basin (Basin Plan), the subject site is located within the Pueblo San Diego Hydrologic Unit, San Diego Mesa Hydrologic Sub Area (908.20). Groundwater underlying the site is designated as being exempt from municipal use. The site is also located within 1,000 feet of marine surface water and concentrations of hydrocarbons in groundwater are several orders of magnitude below cleanup standards for sites within 1,000 feet of marine surface water. Cleanup goals for groundwater within 1,000 feet of marine surface water are 400 ppb for benzene, 5,000 ppb for toluene, 430 ppb for ethylbenzene, and 10,000 ppb for xylenes.

Groundwater has been encountered at approximately 8 feet to 11 feet bgs during the three groundwater sampling events that took place July 2004, March 2005, and June 2005. Gradient direction appears to be influenced by tidal conditions. During the July 2004 and March 2005 sampling events, groundwater was gauged for elevation during high tide, and groundwater was found to flow away from the San Diego Bay, an unexpected condition. Therefore, on June 23, 2005, the monitoring wells were gauged for groundwater elevations at a -1.7 (low) tide. Based on the groundwater elevation data collected on June 23, 2005, groundwater flowed to the south-southwest, toward San Diego Bay.

2.3 Chemical Characteristics

Site assessments on the subject site have identified soil and groundwater contamination by gasoline. The components of gasoline of primary concern are the aromatic hydrocarbons benzene, toluene, ethylbenzene, and xylenes (BTEX). These chemicals, particularly benzene, have been identified by the State of California to cause cancer or reproductive toxicity or have other potential negative health side affects. Each of these chemicals is soluble in water to concentrations above California State drinking water standards and volatilizes into the atmosphere when exposed to air.

Exposure to the public by these chemicals at the subject site is primarily by contact with impacted soil or groundwater or inhalation of exposed impacted groundwater or soil. A Vapor Risk Assessment (VRA) was performed in response to a directive from the County of San Diego DEH dated May 31, 2005, to assess the potential increased health risk associated with benzene-impacted soil underlying the existing Empty Tomb Choppers shop. The Vapor Risk Assessment Report was submitted to the DEH on July 12, 2005. The results for the soil VRA model indicate a potential increased health risk of 1 in 1,042,752 persons for the 8-year exposure duration, which is lower than the DEH acceptable level of risk of 1 in 1,000,000 persons. According to the results of the VRA, the potential increased health risk from exposure to benzene vapors in Empty Tomb Choppers is within DEH acceptable limits.

During site assessment activities, EnecoTech encountered impact to soil up to 5,700 mg/kg of TPHg, 3,600 mg/kg of TPHd (weathered gasoline), 16 mg/kg of benzene, and 66 mg/kg of MTBE (by EPA Method 8021). Groundwater impact has been identified at up to 5,800 µg/l of TPHg, 52,000 µg/l of TPHd, and 35 µg/l of benzene. MTBE has not been detected in soil or groundwater at this site by EPA Method 8260. Soil and groundwater impact appears to be limited primarily onsite to an area beneath the western edge of the onsite buildings, west of the buildings, and extends beneath an area of Lytton Street as depicted on Figures 2 and 6. Using horizontal and vertical parameters, a mass of 557 pounds of total petroleum hydrocarbons was calculated as the amount of total petroleum hydrocarbons in soil in place at the site.

Laboratory results for benzene in groundwater samples are very low. In the latest groundwater monitoring event, benzene was detected in MW-1 at 0.71 µg/l and in MW-5 at 0.51 µg/l. These concentrations are below the State Maximum Contaminant Levels (MCL) for benzene which is 1 µg/l. Monitoring wells MW-2, MW-3, and MW-4 were non-detect for benzene at detection limits of <0.30 µg/l. Concentrations of toluene, ethylbenzene, and xylenes are very low and are also below their respective state MCL's. Graphs of benzene concentrations versus groundwater elevation over time indicate a decreasing hydrocarbon trend (Figure 7).

2.4 Future Site Characteristics

The site is presently developed with a commercial building occupied by three commercial tenants. Current site uses include Just Curves clothing store, Empty Tomb Choppers motorcycle fabrication shop, and Pacific Embroidery garment shop. According to the site contact, no site building or improvements are planned at this time.

3.0 FEASIBILITY STUDY AND WORK PLAN

Remedial actions considered in this corrective action plan are: Vapor Extraction, Soil Excavation, and Natural Attenuation/Site Closure. The following sections discuss costs for implementing the technologies at the site. The costs should be considered approximate guidelines not definitive estimates.

Option A: Vapor Extraction

Removal of contaminants from the soil is feasible through the installation and operation of a Vapor Extraction System (VES). The remediation system proposed for the site would consist of the following: 1) vapor extraction wells (number would be determined by a pilot test); 2) vapor extraction system; and, 3) thermal oxidizer treatment unit.

Initially, GES would oversee the performance of a pilot test for vapor extraction. GES would engage a contractor for a one-day test using a portable high vacuum pumping system in an effort to obtain information for the optimum system design. Upon review of the test results, a separate report would be prepared and submitted to the DEH regarding the test, along with an evaluation of results and conclusions. The VES would extract vapors from the subsurface soils that would be treated by a thermal oxidizer or absorption with carbon filters. Upon installation of the VES, GES would provide weekly maintenance and monitoring, and quarterly preparation and submittal of reports detailing the operation of the system and cumulative amounts of hydrocarbons removed. The estimated time frame to complete the removal of the impact from the soil is 1 to 1.5 years. The estimated time frame does not include obtaining any required permits, performance of a pilot test, design and installation of the VES system, regulatory review, and decommissioning of the system. The estimated cost for the permits, VES operation and monitoring, and reporting is $150,000.00 to $200,000.00.

Option B: Soil Excavation

Soil Excavation consists of the removal and disposal of impacted soil. The amount of contaminated soil to be excavated, treated, and disposed of at the site is approximately 740 cubic yards including impacted soil beneath Lytton Street. The amount was estimated based on vertical and horizontal extent of soil impact as depicted on Figures 2 and 6. However, excavation of soil beneath Lytton Street is highly unlikely to be permitted, limiting excavation activities to removing impacted soil within the property boundaries. Soil removal would be performed by a subcontractor. Soil samples would be collected by GES to confirm removal of impacted soil. Soil would be separated according to impact in an attempt to minimize the amount of soil disposed. The excavated soil determined by laboratory analysis to be impacted would be placed in trucks and transported to a licensed treatment facility for disposal. Please note: excavation of soil below the water table may not be feasible due to shallow groundwater and soil conditions that would be prone to caving. Additional remedial activities could be required to remediate impact to groundwater. The estimated time frame to permit, schedule, and complete the removal of the contaminated soil is three to six months. The timeframe includes submittal and review of this CAP by the DEH, required permits to demolish part of the existing building and restore the structure following excavation activities will be obtained, review of vendor proposals, excavation of the soil, and preparation of a report indicating the completion of activities. The estimated cost for the permits, excavation of soil within property boundaries, transportation, disposal of impacted soil, and completion of the report is $99,900.00, not including building demolition and reconstruction.

Option C: Natural Attenuation/Site Closure

Natural attenuation relies on natural processes to achieve remedial objectives through a variety of physical, chemical, or biological processes that, under prevailing conditions, act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants in soil or groundwater. Data collected to date indicates the hydrocarbon plume has been adequately assessed. The hydrocarbon plume is stable and it appears that impact to soil and groundwater does not pose a threat to groundwater quality or public health based upon a vapor risk evaluation and water quality goals for groundwater within 1,000 feet of marine surface waters, and non-beneficial use groundwater designation. Under the natural attenuation option, remaining activities include a remaining groundwater sampling event and properly destroying the five groundwater monitoring wells. The five monitoring wells would be properly abandoned under appropriate County of San Diego DEH permit. The estimated cost for permits, traffic control, groundwater sampling, well abandonment, and completion of the well follow up report is $ 9,000.00 to $15,000.00.

4.0 RECOMMENDATION AND JUSTIFICATION OF CORRECTIVE ACTION

4.1 Recommendation and Justification

After analysis of previous site assessments, soil and groundwater sampling, laboratory analysis, and client intent for future property use, GES recommends Option C: Natural Attenuation/Site Closure for the site. The feasibility of this option is supported by the following conditions: the area of impacted soil is limited to beneath the western edge of the onsite building, the adjacent paved area to the west, and a city street. A Vapor Risk Assessment was performed and the results indicated a potential increased health risk of 1 in 1,042,752 persons for the 8-year exposure duration, which is lower than the DEH acceptable level of risk, which are 1 in 1,000,000 persons. Results of the vapor risk assessment indicate no risk to public health due to benzene impact. The area of impacted groundwater appears to be confined to the site and a small area of the adjacent Lytton Street. Benzene concentrations are below the MCL, and groundwater underlying the site is designated as being exempt from municipal use. There do not appear to be any risks to public health or the environmental that would warrant remediation of impact on the property or beneath the adjacent Lytton Street. Allowing remaining impact to continue to degrade is the best available option. The monitoring wells have been sampled for three quarters and during this period, analyte concentrations have been low and have declined. There appears to be no benefit from continuing monitoring.

4.2 Schedule

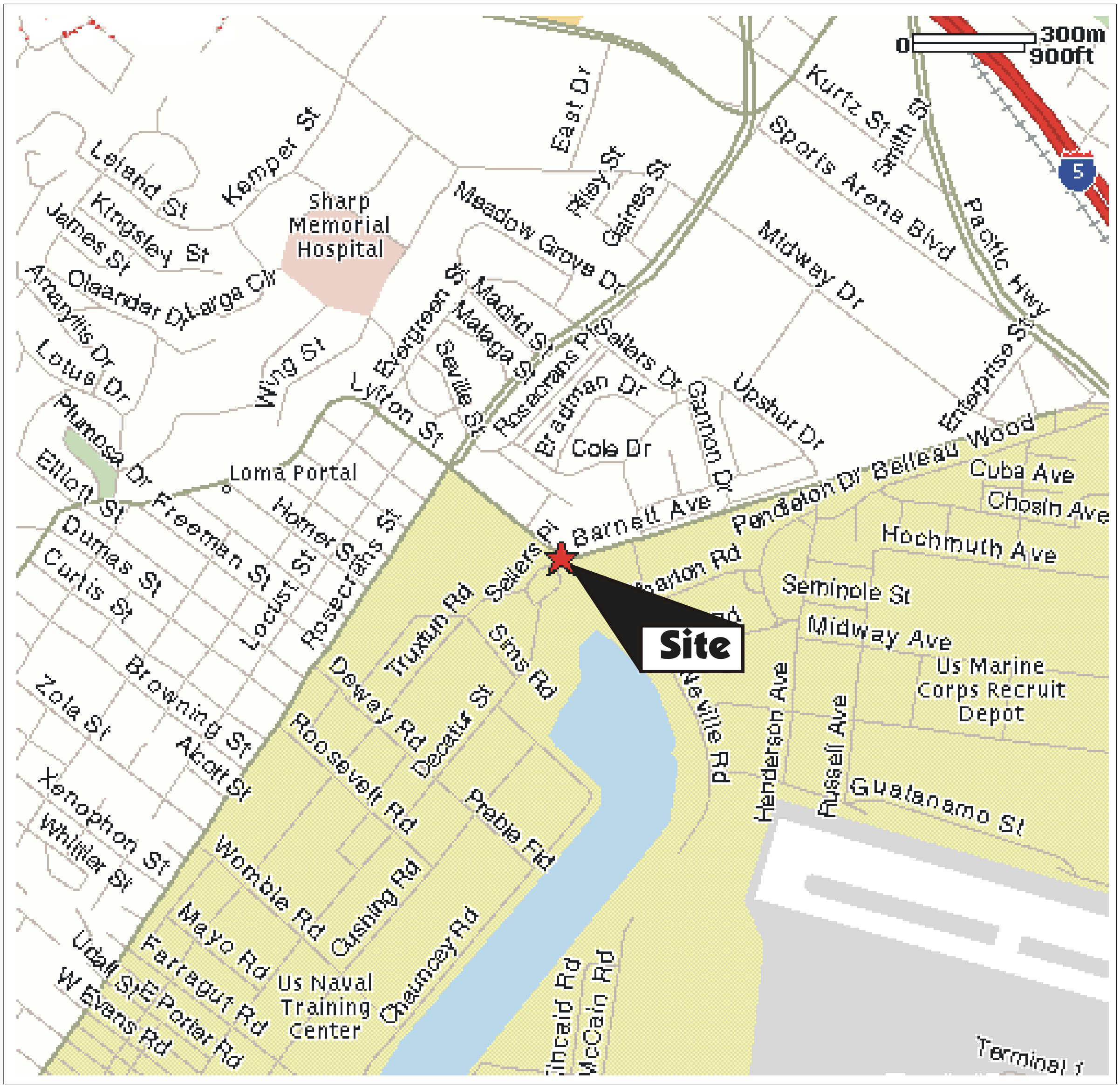
The following approximate time frame for completion is envisioned for the scope of work proposed for Option C:

• Final Groundwater Sampling	September 2005
• Final Groundwater Monitoring Report	October 2005
• Abandon Monitoring Wells	November 2005

5.0 REFERENCES

1. Geology of the Point Loma Quadrangle, San Diego, California, 1975.
2. Revised Table 1 to San Diego Regional Water Quality Control Board "Interim Guidance on Required Cleanup at Low-Risk Fuel Contaminated Sites", July 24, 1996, California Regional Water Quality Control Board.
3. "Limited Phase II Environmental Site Assessment" report, August 15, 2003, EnecoTech Southwest, Inc.
4. "Additional Site Assessment Activities" report, September 24, 2003, EnecoTech Southwest, Inc.
5. "Comprehensive Site Assessment Report", September 10, 2004, EnecoTech Southwest, Inc.
6. "Additional Site Assessment Report", April 20, 2005, EnecoTech Southwest, Inc.
7. 'Geophysical Survey Notification" letter, May 3, 2004, EnecoTech Southwest, Inc.
8. "June 2005 Groundwater Monitoring Report", July 12, 2005, EnecoTech Southwest, Inc.

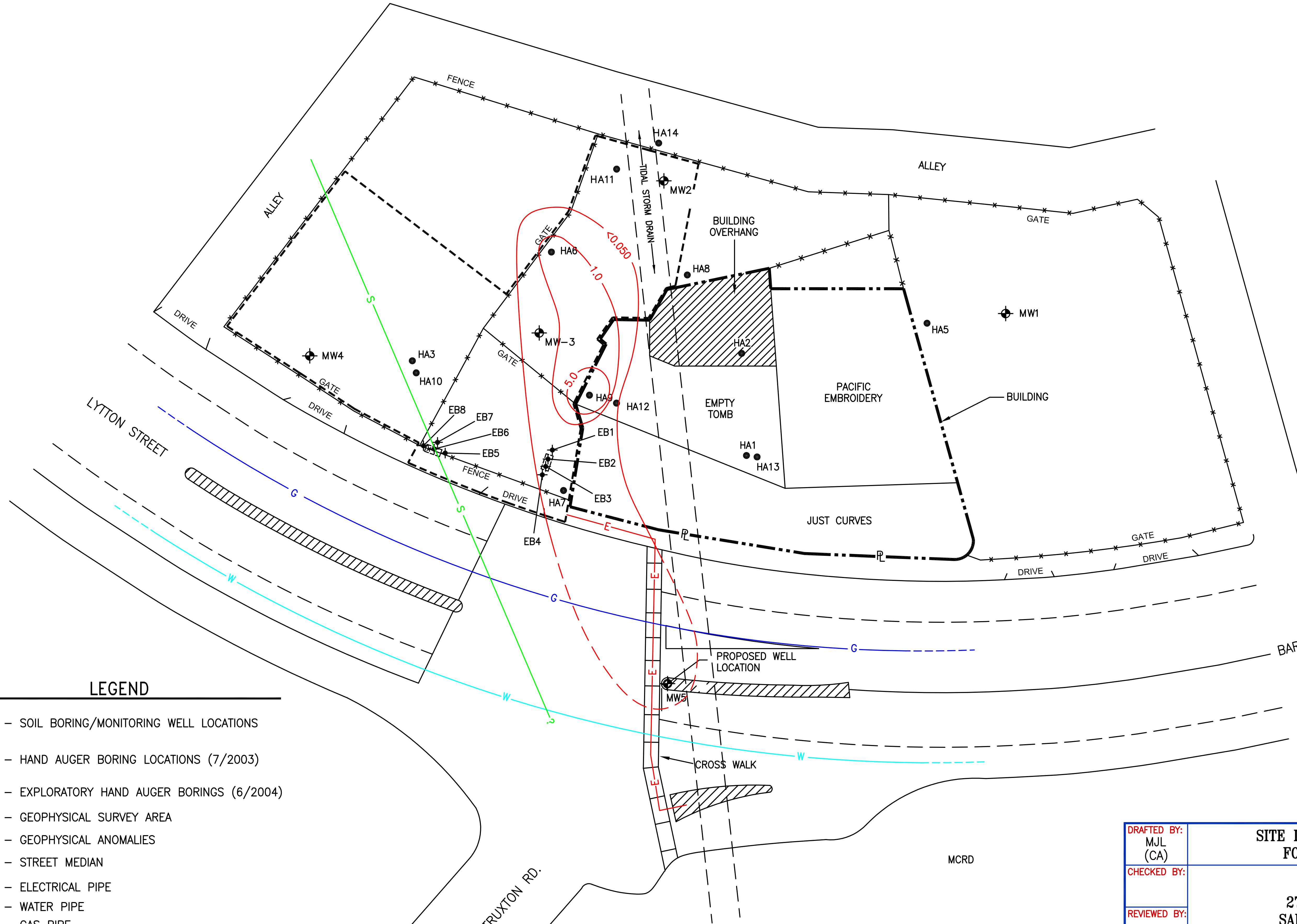
FIGURES



Reference Map Quest.

DRAFTED BY: MJL (CA)	SITE LOCATION MAP
CHECKED BY:	GEM PROPERTIES 2702 LYTTON STREET SAN DIEGO, CALIFORNIA
REVIEWED BY:	
NORTH	Groundwater & Environmental Services, Inc. 6160 FAIRMOUNT AVENUE, SUITE A, SAN DIEGO, CA 92121

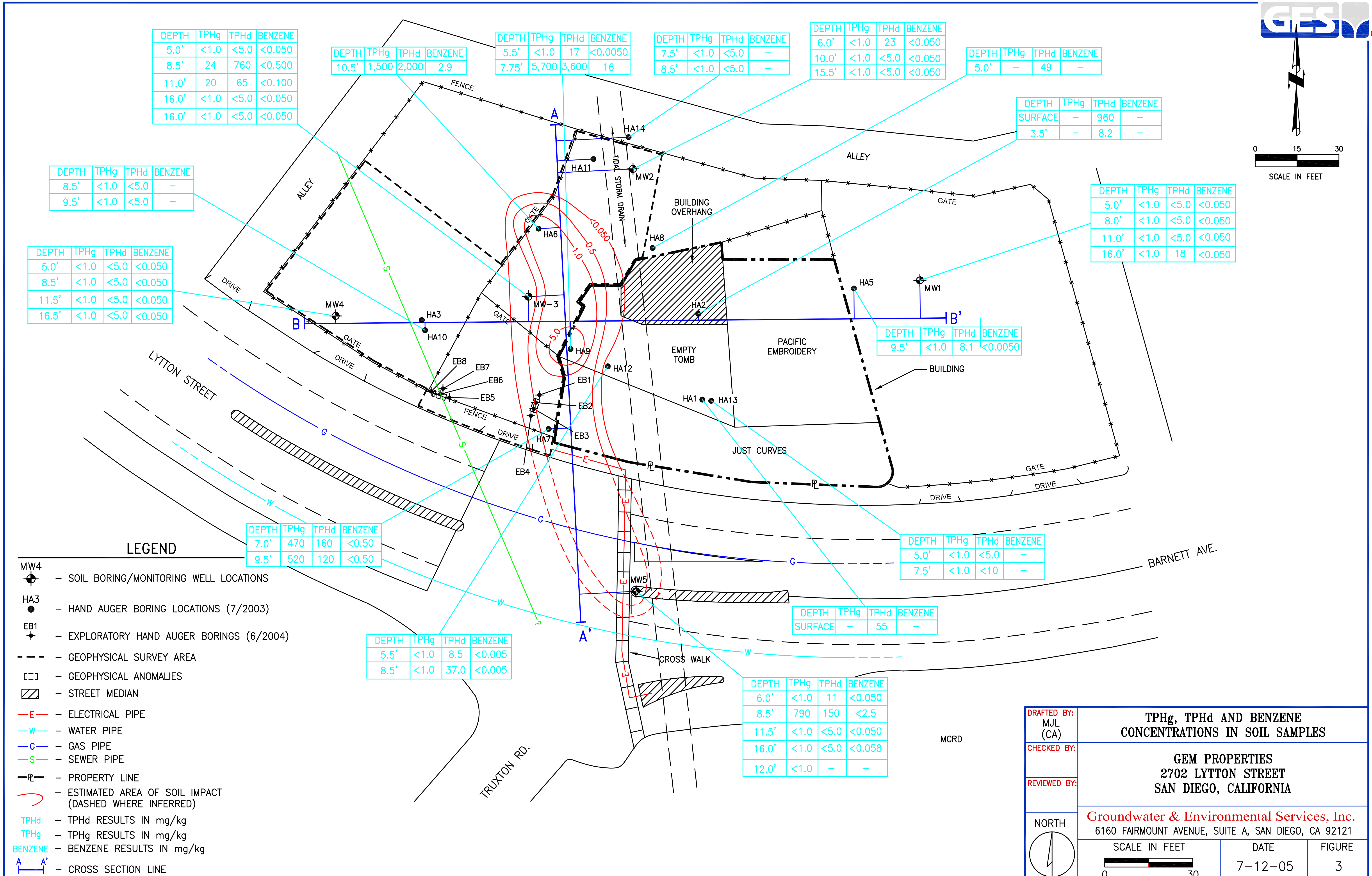
	DATE	FIGURE
AS SHOWN	7-12-05	1



LEGEND

- MW4 – SOIL BORING/MONITORING WELL LOCATIONS
- HA3 – HAND AUGER BORING LOCATIONS (7/2003)
- EB1 – EXPLORATORY HAND AUGER BORINGS (6/2004)
- – GEOPHYSICAL SURVEY AREA
- – GEOPHYSICAL ANOMALIES
- – STREET MEDIAN
- —E— – ELECTRICAL PIPE
- —W— – WATER PIPE
- —G— – GAS PIPE
- —S— – SEWER PIPE
- --PL-- – PROPERTY LINE
- 5.0 – ESTIMATED AREA OF SOIL IMPACT (DASHED WHERE INFERRED)

DRAFTED BY: MJL (CA)	SITE DETAILS & ISOCONTOURS FOR BENZENE IN SOIL
CHECKED BY:	GEM PROPERTIES 2702 LYTTON STREET SAN DIEGO, CALIFORNIA
REVIEWED BY:	
NORTH	Groundwater & Environmental Services, Inc. 6160 FAIRMOUNT AVENUE, SUITE A, SAN DIEGO, CA 92121
	SCALE IN FEET 0 30 | DATE 7-12-05 | FIGURE 2



DRAFTED BY: MJL (CA)

CHECKED BY:

REVIEWED BY:

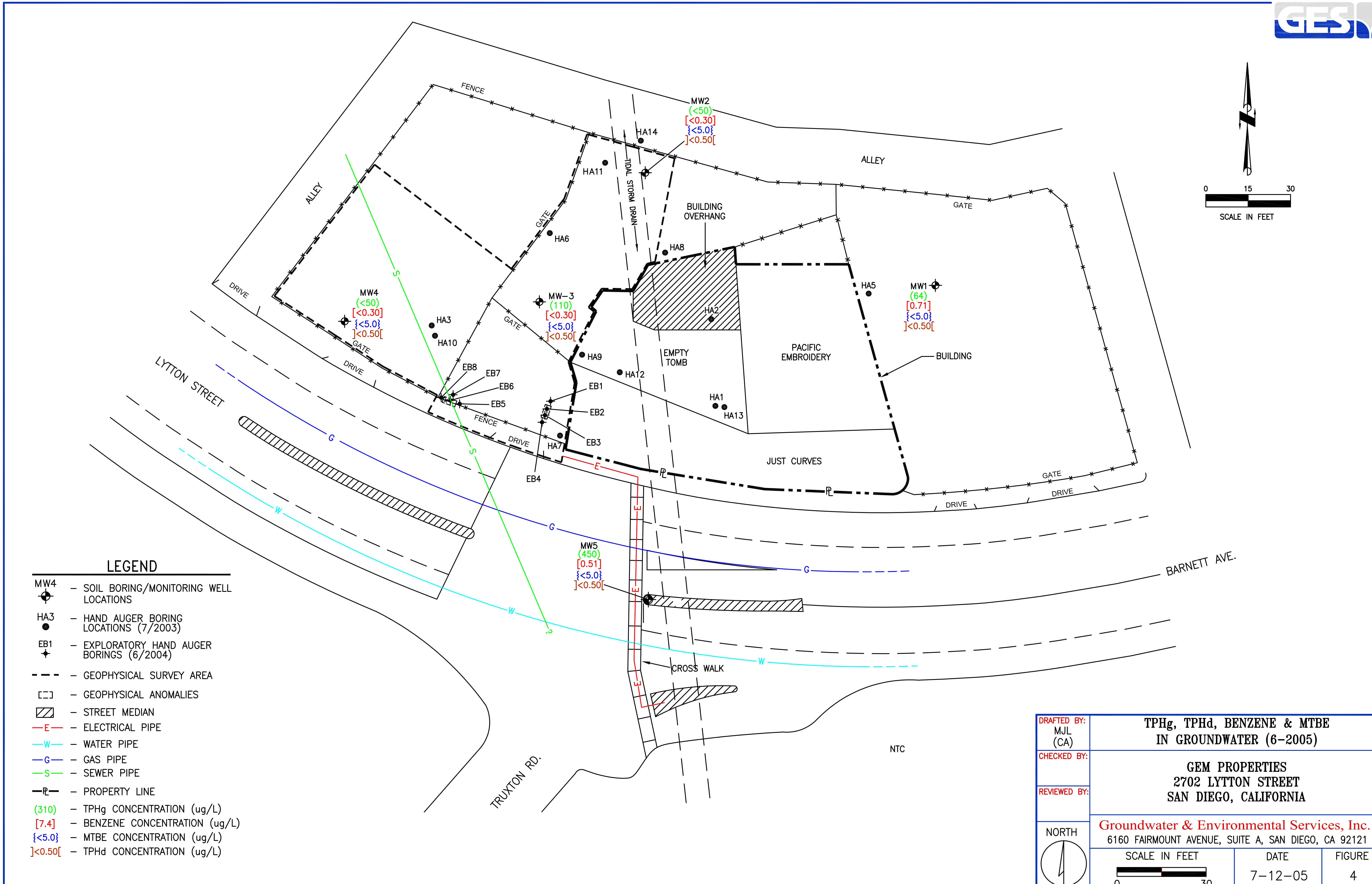
NORTH

TPHg, TPHd AND BENZENE CONCENTRATIONS IN SOIL SAMPLES

GEM PROPERTIES
2702 LYTTON STREET
SAN DIEGO, CALIFORNIA

Groundwater & Environmental Services, Inc.
6160 FAIRMOUNT AVENUE, SUITE A, SAN DIEGO, CA 92121

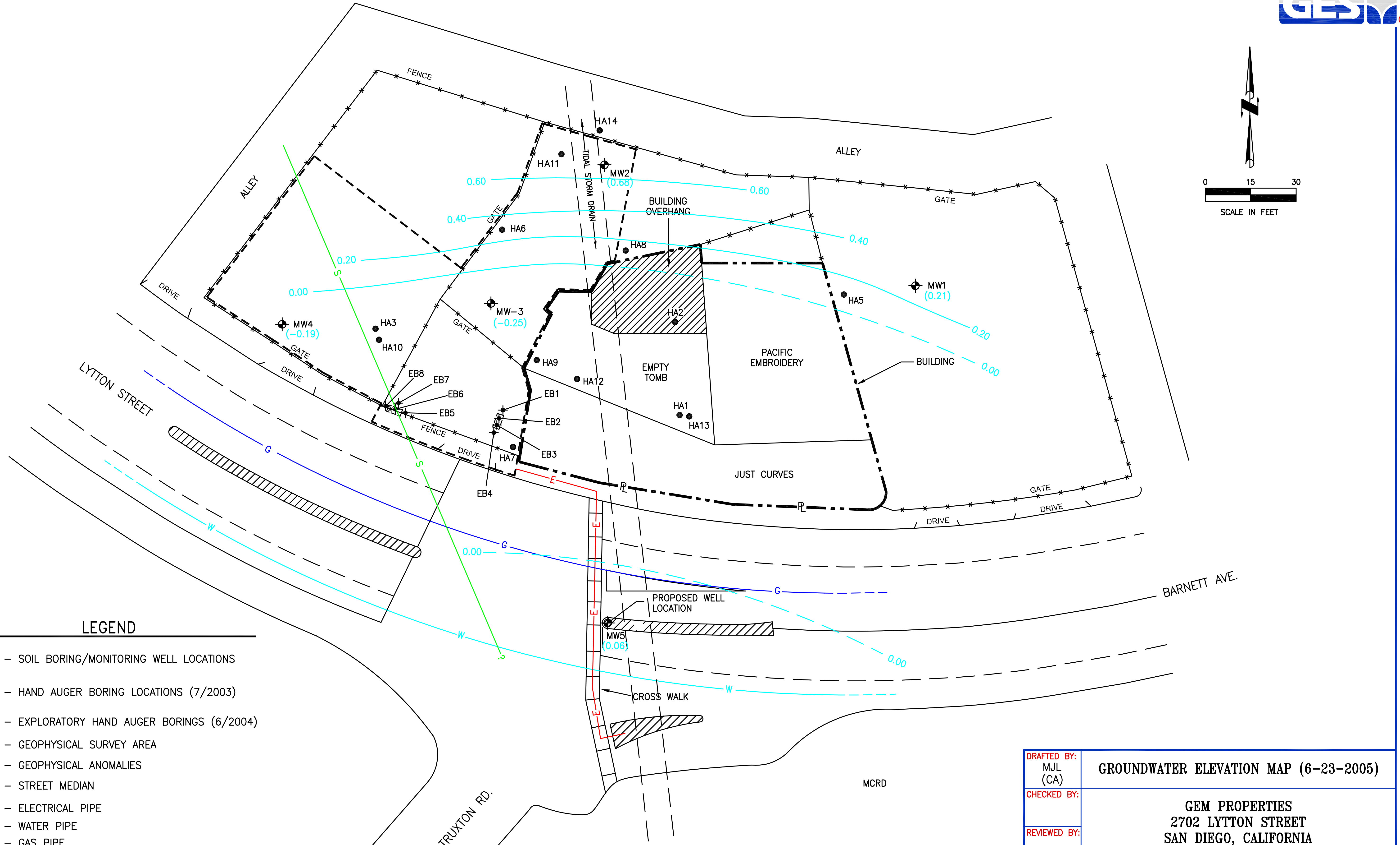
SCALE IN FEET	DATE	FIGURE
0 — 30	7-12-05	3



LEGEND

MW4 – SOIL BORING/MONITORING WELL LOCATIONS
HA3 – HAND AUGER BORING LOCATIONS (7/2003)
EB1 – EXPLORATORY HAND AUGER BORINGS (6/2004)
– GEOPHYSICAL SURVEY AREA
– GEOPHYSICAL ANOMALIES
– STREET MEDIAN
—E— – ELECTRICAL PIPE
—W— – WATER PIPE
—G— – GAS PIPE
—S— – SEWER PIPE
—PL— – PROPERTY LINE
(310) – TPHg CONCENTRATION (ug/L)
[7.4] – BENZENE CONCENTRATION (ug/L)
{<5.0} – MTBE CONCENTRATION (ug/L)
]<0.50[– TPHd CONCENTRATION (ug/L)

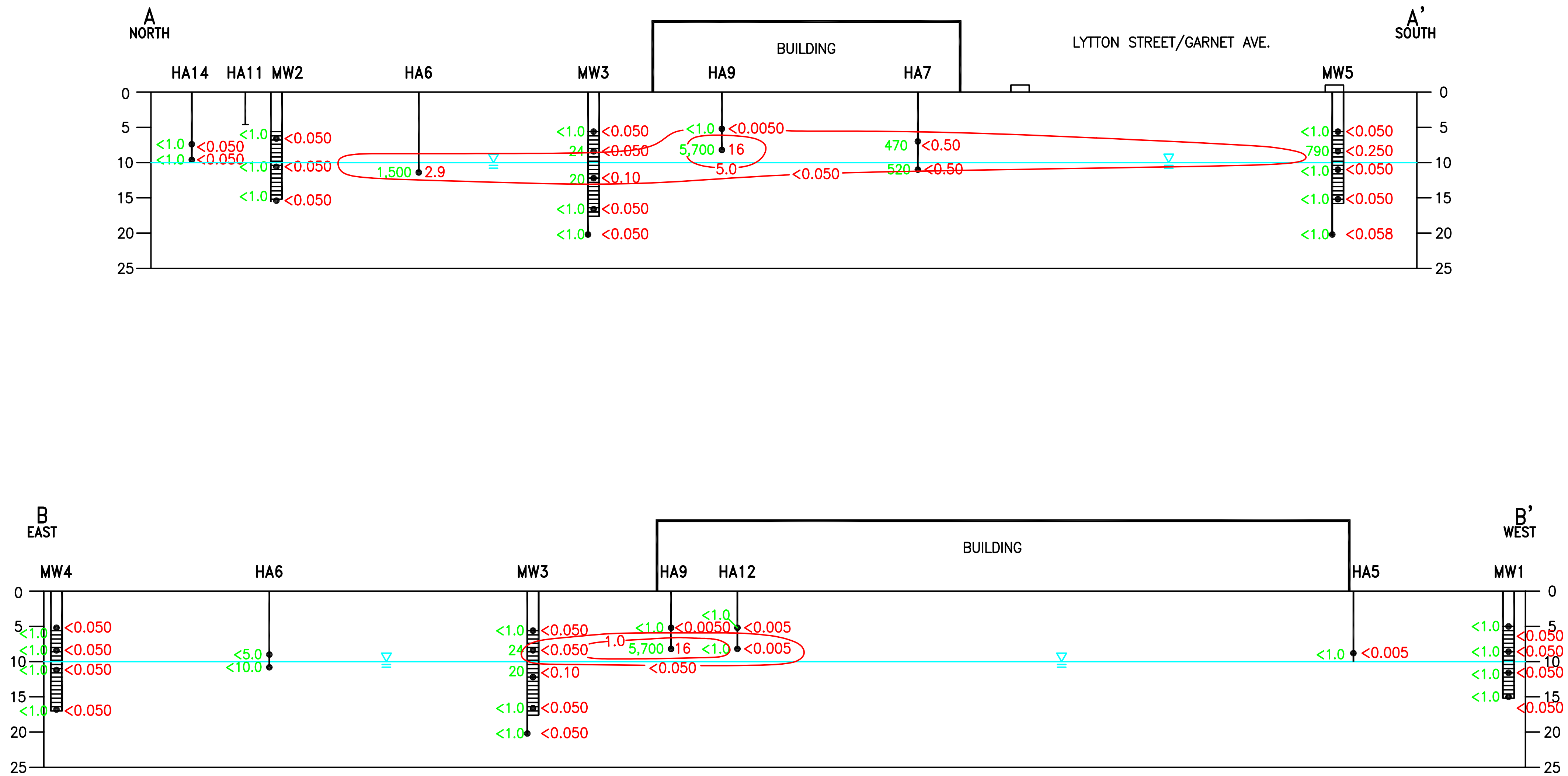
DRAFTED BY: MJL (CA)	TPHg, TPHd, BENZENE & MTBE IN GROUNDWATER (6–2005)
CHECKED BY:	GEM PROPERTIES 2702 LYTTON STREET SAN DIEGO, CALIFORNIA
REVIEWED BY:	
NORTH	Groundwater & Environmental Services, Inc. 6160 FAIRMOUNT AVENUE, SUITE A, SAN DIEGO, CA 92121
	SCALE IN FEET 0 30 | DATE 7–12–05 | FIGURE 4



LEGEND

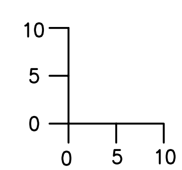
- MW4 – SOIL BORING/MONITORING WELL LOCATIONS
- HA3 – HAND AUGER BORING LOCATIONS (7/2003)
- EB1 – EXPLORATORY HAND AUGER BORINGS (6/2004)
- – GEOPHYSICAL SURVEY AREA
- – GEOPHYSICAL ANOMALIES
- – STREET MEDIAN
- —E— – ELECTRICAL PIPE
- —W— – WATER PIPE
- —G— – GAS PIPE
- —S— – SEWER PIPE
- —PL— – PROPERTY LINE
- (0.21) – GROUNDWATER ELEVATION ABOVE MSL
- – GROUNDWATER CONTOUR

DRAFTED BY: MJL (CA)	GROUNDWATER ELEVATION MAP (6-23-2005)
CHECKED BY:	GEM PROPERTIES 2702 LYTTON STREET SAN DIEGO, CALIFORNIA
REVIEWED BY:	
NORTH	Groundwater & Environmental Services, Inc. 6160 FAIRMOUNT AVENUE, SUITE A, SAN DIEGO, CA 92121
	SCALE IN FEET 0 30 | DATE 7-12-05 | FIGURE 5



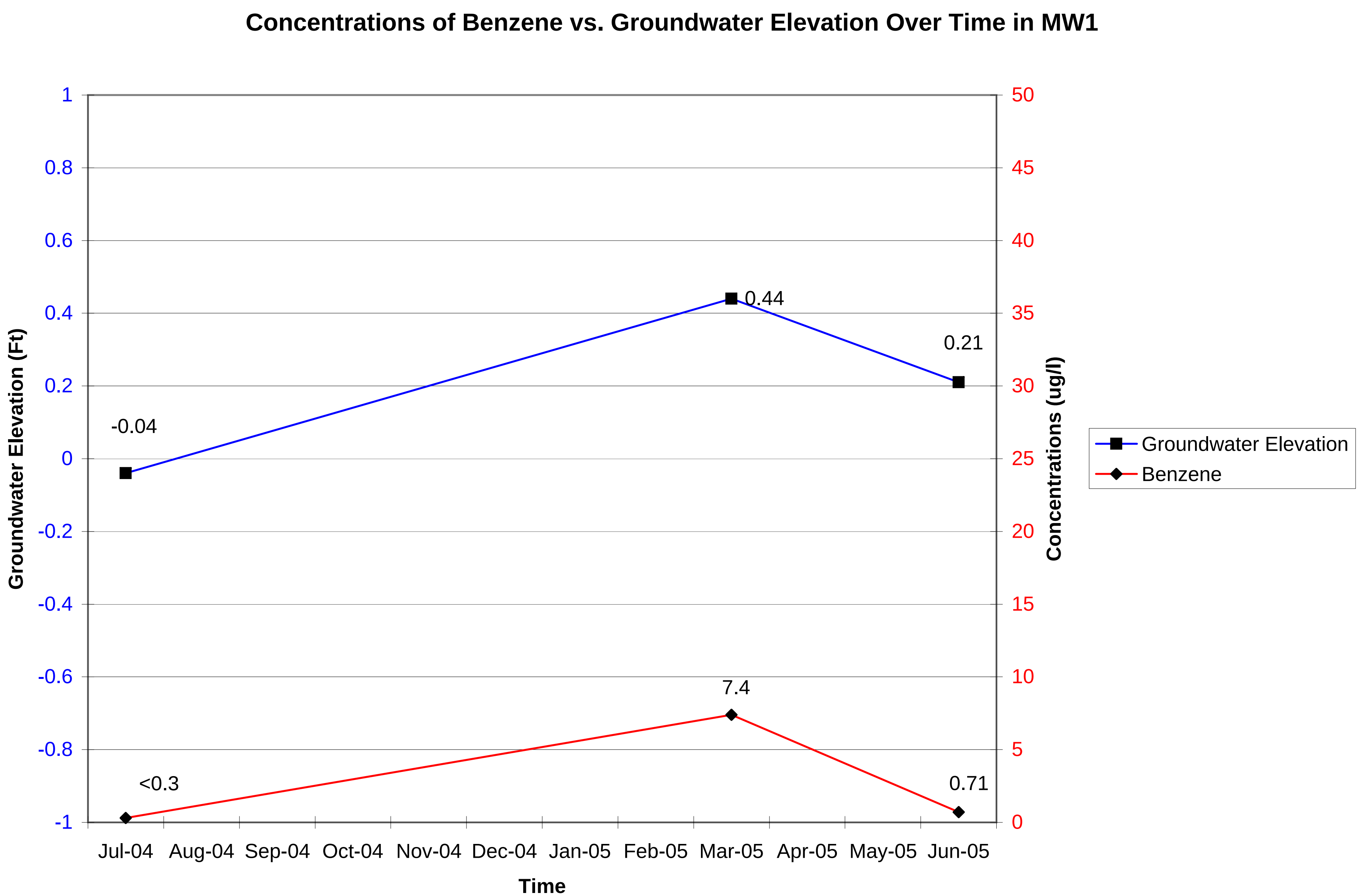
LEGEND

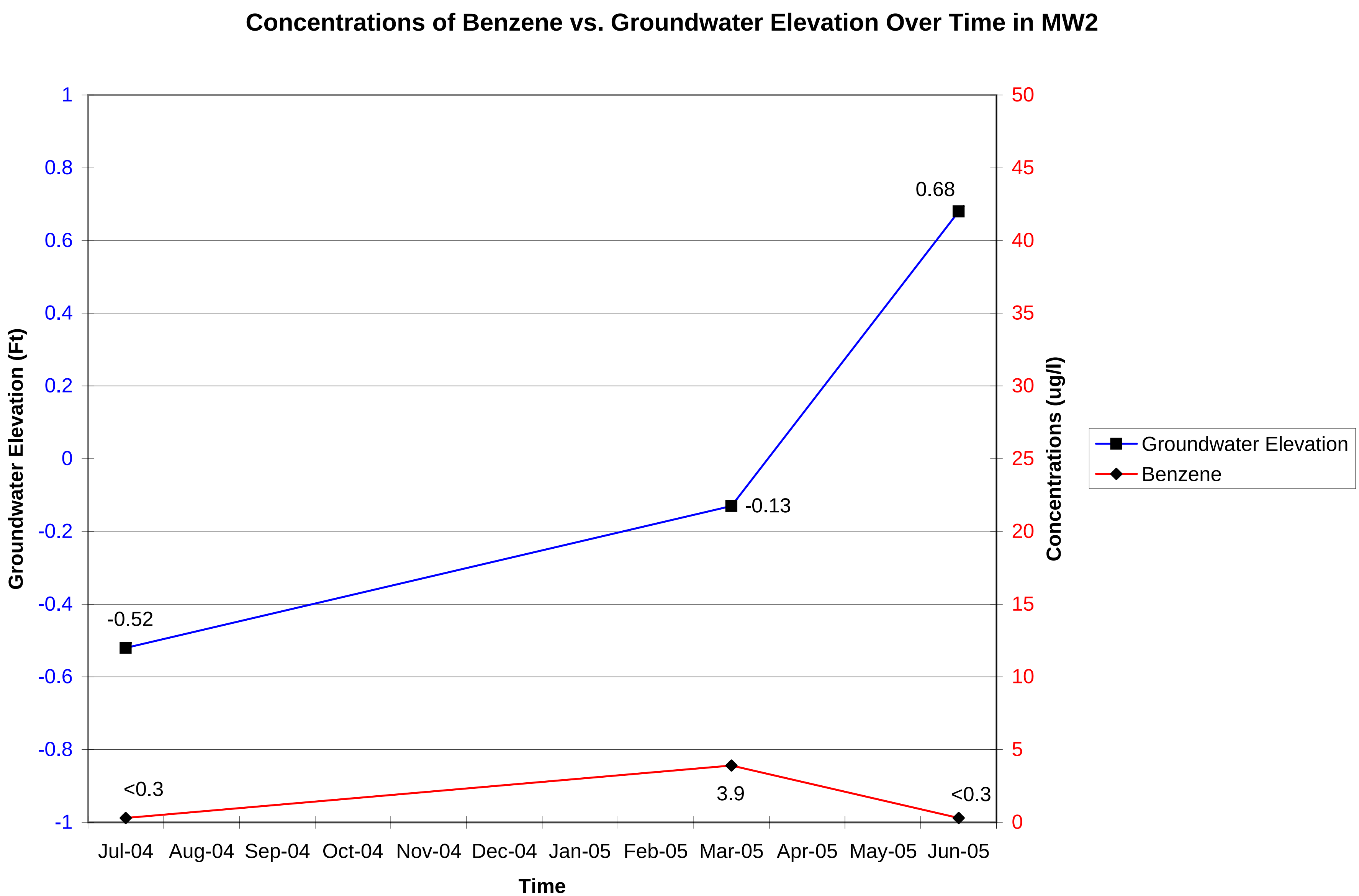
- <1.0 – TPHg (mg/kg)
- <0.050 – BENZENE (mg/kg)
- – BENZENE CONCENTRATION CONTOUR
- – GROUNDWATER TABLE

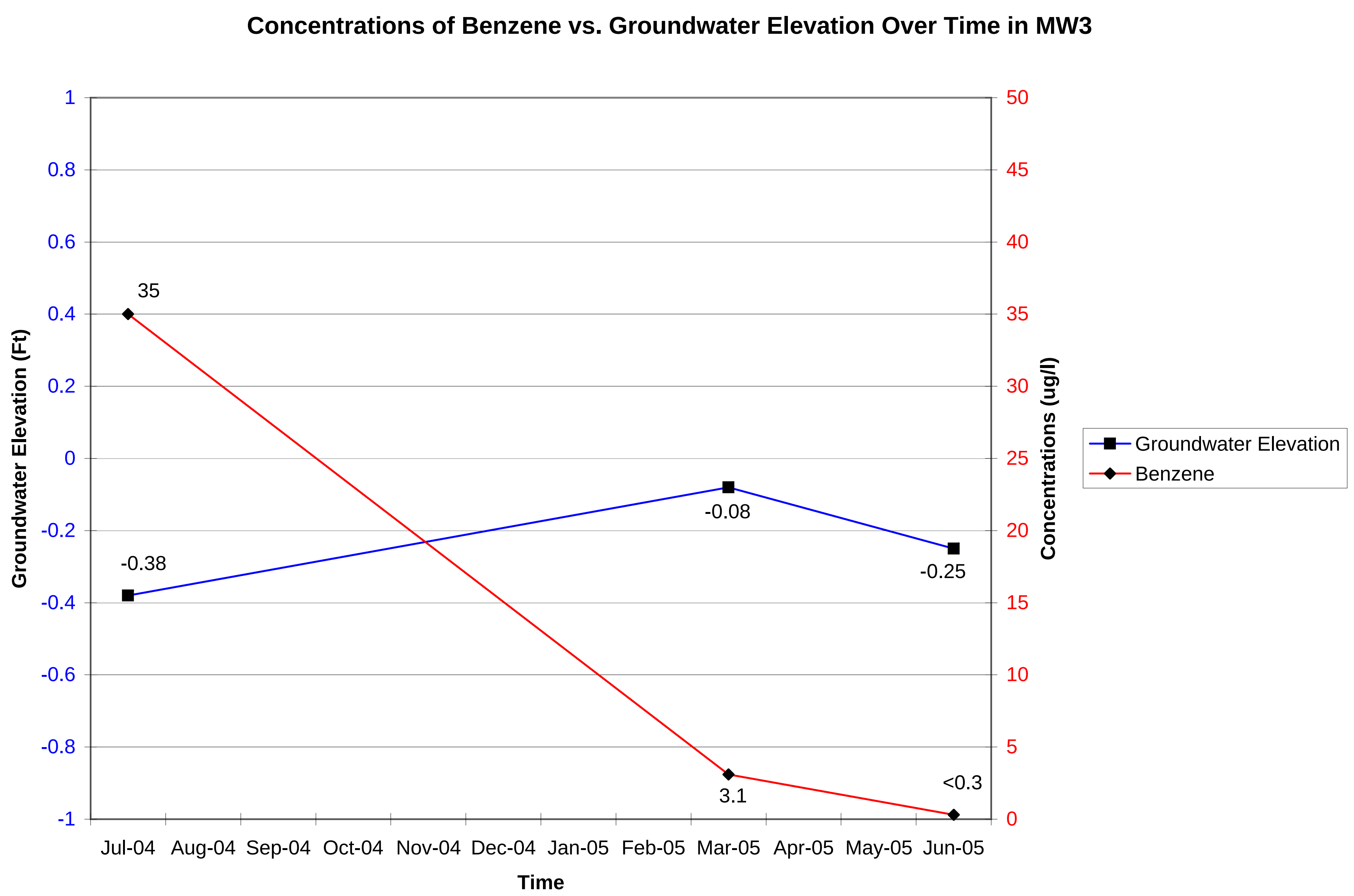


SCALE: VERTICAL=HORIZONTAL

DRAFTED BY: MJL (CA)	CROSS SECTION A-A' AND B-B'
CHECKED BY:	GEM PROPERTIES 2702 LYTTON STREET SAN DIEGO, CALIFORNIA
REVIEWED BY:	
NORTH	Groundwater & Environmental Services, Inc. 6160 FAIRMOUNT AVENUE, SUITE A, SAN DIEGO, CA 92121
	AS SHOWN — DATE 7-12-05 — FIGURE 6

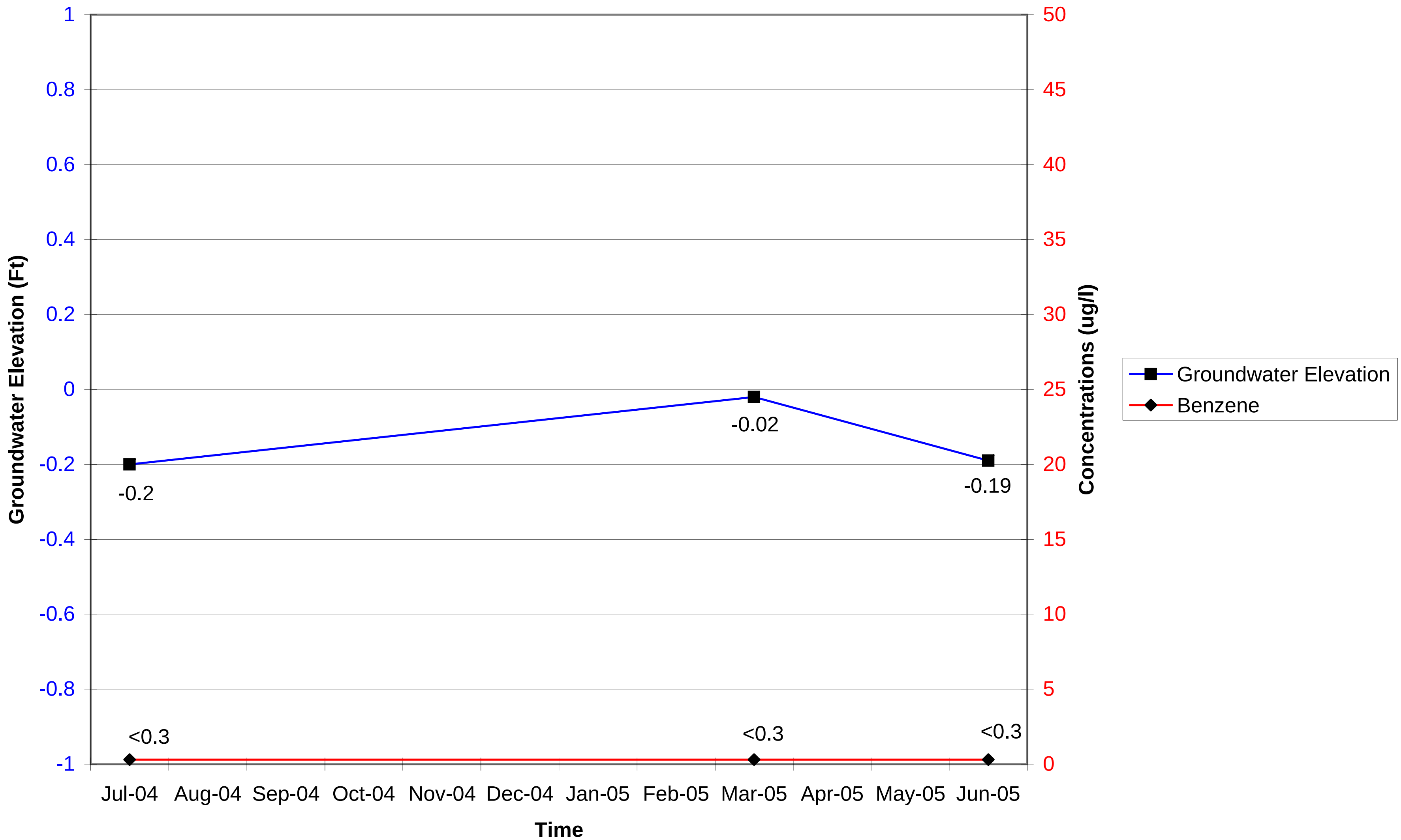

Concentrations of Benzene vs. Groundwater Elevation Over Time in MW1
Groundwater Elevation (Ft)
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
Concentrations (ug/l)
50
45
40
35
30
25
20
15
10
5
0
-0.04
0.44
0.21
<0.3
7.4
0.71
Jul-04
Aug-04
Sep-04
Oct-04
Nov-04
Dec-04
Jan-05
Feb-05
Mar-05
Apr-05
May-05
Jun-05
Time
Groundwater Elevation
Benzene

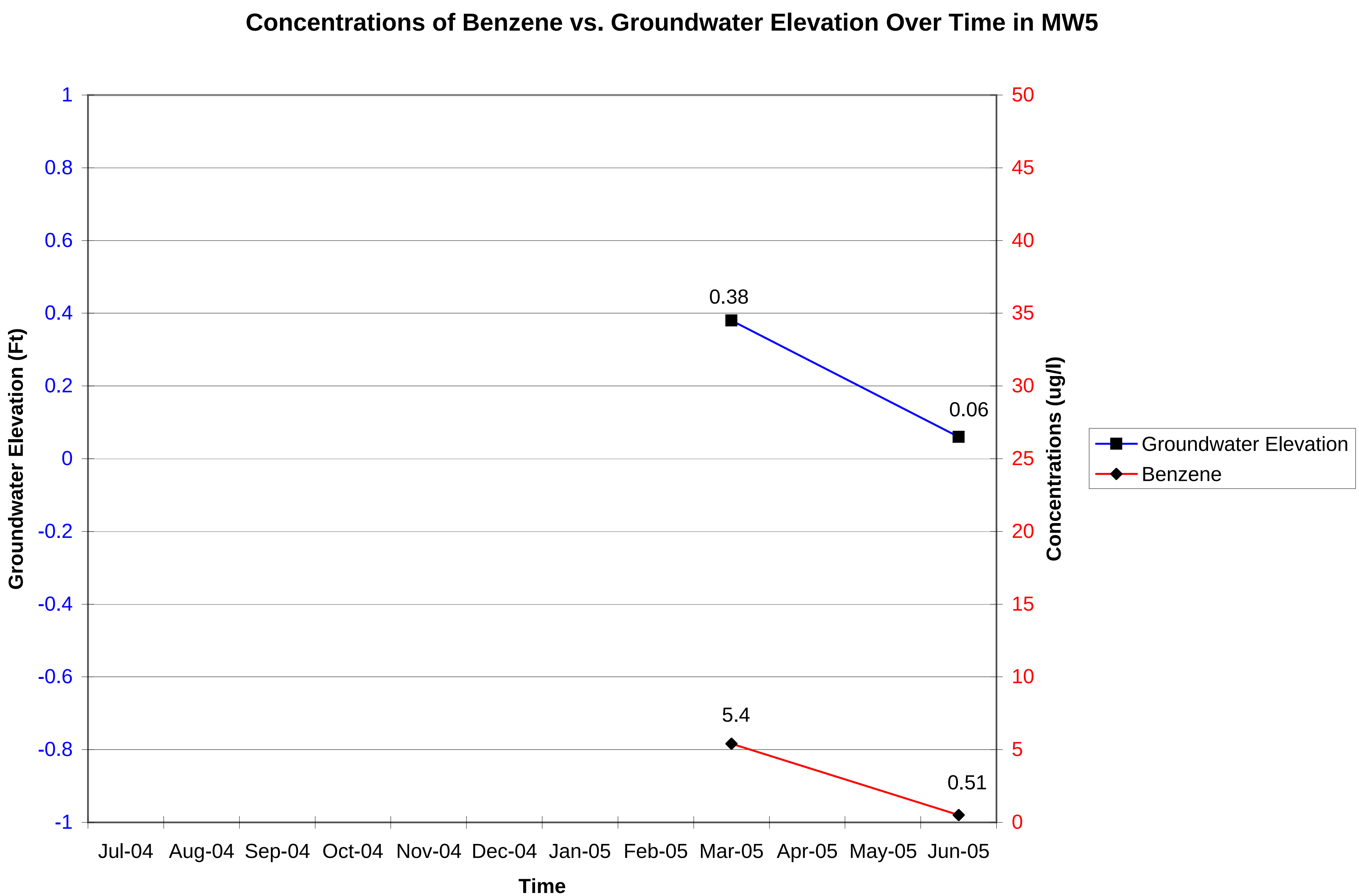

Concentrations of Benzene vs. Groundwater Elevation Over Time in MW2
Groundwater Elevation (Ft)
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
Concentrations (ug/l)
50
45
40
35
30
25
20
15
10
5
0
0.68
-0.13
-0.52
<0.3
3.9
<0.3
Jul-04
Aug-04
Sep-04
Oct-04
Nov-04
Dec-04
Jan-05
Feb-05
Mar-05
Apr-05
May-05
Jun-05
Time
Groundwater Elevation
Benzene



Concentrations of Benzene vs. Groundwater Elevation Over Time in MW3
Groundwater Elevation (Ft)
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
Concentrations (ug/l)
50
45
40
35
30
25
20
15
10
5
0
35
-0.38
-0.08
-0.25
3.1
<0.3
Jul-04
Aug-04
Sep-04
Oct-04
Nov-04
Dec-04
Jan-05
Feb-05
Mar-05
Apr-05
May-05
Jun-05
Time
Groundwater Elevation
Benzene

Concentrations of Benzene vs. Groundwater Elevation Over Time in MW4





Concentrations of Benzene vs. Groundwater Elevation Over Time in MW5
Groundwater Elevation (Ft)
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
Concentrations (ug/l)
50
45
40
35
30
25
20
15
10
5
0
0.38
0.06
5.4
0.51
Jul-04
Aug-04
Sep-04
Oct-04
Nov-04
Dec-04
Jan-05
Feb-05
Mar-05
Apr-05
May-05
Jun-05
Time
Groundwater Elevation
Benzene

TABLES

TABLE 1: Analytical Results for TPHg, TPHd, and BTEX in Soil (July and September 2003)

Sample ID	Date Sampled	EPA Method 8015 (mg/kg)		EPA Method 8021 (mg/kg)				
		TPHg	**TPHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Xylenes**	**MTBE**
HA1-SURFACE	7/8/03		**55**					
HA2-SURFACE	7/8/03		**960**					
HA2-3.5	7/8/03		**8.2**					
HA4-3.5	7/8/03		**250**					
HA5-9.5	7/8/03	<1.0	**8.2**	<0.0050	<0.0050	<0.0050	<0.015	<0.035
HA6-10.5	7/8/03	**1,500**	**2,000**	**2.9**	**7.9**	**4.9**	**15**	<14
HA7-7.0	7/8/03	**470**	**160**	<0.50	<0.50	**1.7**	**3.6**	<3.5
HA7-9.5	7/8/03	**520**	**120**	<0.50	1.2	**2.6**	**3.8**	<3.5
HA8-5.0	7/8/03	NA	**49**	NA	NA	NA	NA	NA
HA9-5.5	7/8/03	<1.0	**17**	<0.0050	<0.0050	<0.0050	<0.015	<0.035
HA9-7.75	7/8/03	**5,700**	**3,600**	**16**	**8.9**	**31**	**27**	**66**
HA10-8.5	9/10/03	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.035
HA10-9.5	9/10/03	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.035
HA12-5.5	9/10/03	<1.0	**8.5**	<0.0050	<0.0050	<0.0050	<0.015	<0.035
HA12-8.5	9/10/03	<1.0	**37.0**	<0.0050	<0.0050	<0.0050	<0.015	<0.035
HA13-5.0	9/10/03	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.035
HA13-7.5	9/10/03	<1.0	<10.0	<0.0050	<0.0050	<0.0050	<0.015	<0.035
HA14-7.5	9/10/03	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.035
HA14-8.5	9/10/03	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.035

Detectable Concentrations in **Bold**

TABLE 2: Analytical Results for TPHg, TPHd, and BTEX in Groundwater (July 2003)

Sample ID	Date Sampled	EPA Method 8015M		EPA Method 8021 (µg/l)				
		TPHg (µg/l)	**TPHd (mg/l)**	**Benzene**	**Toluene**	**Ethyl-benzene**	**Xylenes**	**MTBE**
HA5	7/8/03	<50	**1.2**	<0.30	<0.30	<0.30	<0.60	<10
HA6	7/8/03	**5,800**	**52**	**6.9**	**7.2**	**18**	**26**	<200
HA7	7/8/03	**2,600**	NA	**5.5**	**1.2**	**79**	**7.9**	<20

TABLE 3: Analytical Results for TPHg, TPHd, and BTEX in Exploratory Borings (May 2004)

SAMPLE ID	EPA Method 8015 (mg/kg) TPHg	EPA Method 8015 (mg/kg) TPHd	BTEX and MTBE by EPA Method 8021B (mg/kg)				
			Benzene	**Toluene**	**Ethyl-benzene**	**Total Xylenes**	**MTBE**
EB1-7.5	**87**	**460**	<0.020	**0.21**	**0.77**	**1.4**	<0.14
EB5-7.5	**65**	**250**	<0.020	**0.043**	**0.10**	**0.48**	<0.14

TABLE 4: Analytical Results for TPHg, TPHd, and BTEX in Soil Samples (July 2004)

SAMPLE ID	EPA Method 8015 (mg/kg) TPHg	EPA Method 8015 (mg/kg) TPHd	BTEX by EPA Method 8260B (µg/kg)			
			Benzene	Toluene	Ethyl-benzene	Total Xylenes
B1-5.0’	<1.0	<5.0	<50	<50	<50	<150
B1-8.0’	<1.0	<5.0	<50	<50	<50	<150
B1-11.0’	<1.0	<5.0	<50	<50	<50	<150
B1-16.0’	<1.0	**18**	<50	<50	<50	<150
B2-6.0’	<1.0	**23**	<50	<50	<50	<150
B2-10.0’	<1.0	<5.0	<50	<50	<50	<150
B2-15.5’	<1.0	<5.0	<50	<50	<50	<150
B3-5.0’	<1.0	<5.0	<50	<50	<50	<150
B3-8.5’	**24**	**760**	<500	<500	**1,500**	<1,500
B3-11.0’	**20**	**65**	<100	<100	**460**	**200**
B3-16.0’	<1.0	<5.0	<50	<50	<50	<150
B3-20.5’	<1.0	<5.0	<50	<50	<50	<150
B4-5.0’	<1.0	<5.0	<50	<50	<50	<150
B4-8.5’	<1.0	<5.0	<50	<50	<50	<150
B4-11.5’	<1.0	<5.0	<50	<50	<50	<150
B4-16.5’	<1.0	<5.0	<50	<50	<50	<150

TABLE 5: Analytical Results for Fuel Oxygenates in Soil Samples (July 2004)

SAMPLE ID	Fuel Oxygenates by EPA Method 8260B (µg/kg)					Total Lead by EPA Method 6010 (mg/kg)
	DIPE	ETBE	TAME	MTBE	TBA	
B1-5.0’	<5.0	<5.0	<5.0	<10	<50	-
B1-8.0’	<5.0	<5.0	<5.0	<10	<50	-
B1-11.0’	<5.0	<5.0	<5.0	<10	<50	-
B1-16.0’	<5.0	<5.0	<5.0	<10	<50	-
B2-6.0’	<5.0	<5.0	<5.0	<10	<50	-
B2-10.0’	<5.0	<5.0	<5.0	<10	<50	-
B2-15.5’	<5.0	<5.0	<5.0	<10	<50	-
B3-5.0’	<5.0	<5.0	<5.0	<10	<50	-
B3-8.5’	<50	<50	<50	<100	<500	<2.0
B3-11.0’	<10	<10	<10	<20	<100	-
B3-16.0’	<5.0	<5.0	<5.0	<10	<50	-
B3-20.5’	<5.0	<5.0	<5.0	<10	<50	-
B4-5.0’	<5.0	<5.0	<5.0	<10	<50	-
B4-8.5’	<5.0	<5.0	<5.0	<10	<50	-
B4-11.5’	<5.0	<5.0	<5.0	<10	<50	-
B4-16.5’	<5.0	<5.0	<5.0	<10	<50	-

TABLE 6: Analytical Results for TPHg, TPHd, and BTEX in Groundwater

SAMPLE ID	Date Sampled	EPA Method 8015 (μg/l) TPHg	EPA Method 8015 (mg/l) TPHd	BTEX and MTBE by EPA Method 8021B (μg/l)			
				Benzene	Toluene	Ethyl-benzene	Total Xylenes
MW1	**7/12/04**	<50	<0.50	<0.30	<0.30	<0.30	<0.60
	3/11/05	**310**	<0.50	**7.4**	**26**	**13**	**83**
	6/23/05	**64**	<0.50	**0.71**	**0.94**	**1.1**	**6.5**
MW2	**7/12/04**	<50	<0.50	<0.30	<0.30	<0.30	<0.60
	3/11/05	**130**	<0.50	**3.9**	**13**	**6.7**	**32**
	6/23/05	<50	<0.50	<0.30	<0.30	<0.30	<0.60
MW3	**7/12/04**	**2,900**	**1.2**	**35**	**8.8**	**26**	**22**
	3/11/05	**260**	<0.50	**3.1**	**13**	**8.1**	**49**
	6/23/05	**110**	<0.50	<0.30	<0.30	<0.30	**0.66**
MW4	**7/12/04**	<50	<0.50	<0.30	<0.30	<0.30	<0.60
	3/11/05	<50	<0.50	<0.30	<0.30	<0.30	<0.60
	6/23/05	<50	<0.50	<0.30	<0.30	<0.30	<0.60
MW5	**7/12/04**	**-**	-	-	**-**	**-**	**-**
	3/11/05	**540**	<0.50	**5.4**	<0.30	**9.6**	**2.4**
	6/23/05	**450**	<0.50	**0.51**	<0.30	**2.4**	**1.5**

TABLE 7: Analytical Results for Fuel Oxygenates in Groundwater

SAMPLE ID	Date Sampled	Fuel Oxygenates by EPA Method 8260B (μg/l)				
		DIPE	ETBE	TAME	MTBE	TBA
MW1	**7/12/04**	<5.0	<5.0	<5.0	<1.0	<25
	3/11/05	<5.0	<5.0	<5.0	<5.0	<25
	6/23/05	<5.0	<5.0	<5.0	<5.0	<25
MW2	**7/12/04**	<5.0	<5.0	<5.0	<1.0	<25
	3/11/05	<5.0	<5.0	<5.0	<5.0	<25
	6/23/05	<5.0	<5.0	<5.0	<5.0	<25
MW3	**7/12/04**	<5.0	<5.0	<5.0	<1.0	<25
	3/11/05	<5.0	<5.0	<5.0	<5.0	<25
	6/23/05	<5.0	<5.0	<5.0	<5.0	<25
MW4	**7/12/04**	<5.0	<5.0	<5.0	<1.0	<25
	3/11/05	<5.0	<5.0	<5.0	<5.0	<25
	6/23/05	<5.0	<5.0	<5.0	<5.0	<25
MW5	**3/11/05**	<5.0	<5.0	<5.0	<5.0	<50
	6/23/05	<5.0	<5.0	<5.0	<5.0	<25

TABLE 8: Analytical Results for TPHg, TPHd, and BTEX in Soil Samples (March 2005)

SAMPLE ID	EPA Method 8015 (mg/kg) TPHg	EPA Method 8015 (mg/kg) TPHd	BTEX by EPA Method 8260B (μg/kg)			
			Benzene	Toluene	Ethyl-benzene	Total Xylenes
B5-6.0’	<1.0	**11**	<50	<50	<50	<150
B5-8.5’	**790**	**150**	<2,500	<2,500	<2,500	<7,500
B5-11.5’	<1.0	<5.0	<50	<50	<50	<150
B5-16.0’	<1.0	<5.0	<58	<58	<58	<150
B5-21.0’	<1.0	-	-	-	-	-

TABLE 9: Analytical Results for Fuel Oxygenates in Soil (March 2005)

SAMPLE ID	Fuel Oxygenates by EPA Method 8260B (µg/kg)				
	DIPE	ETBE	TAME	MTBE	TBA
B5-6.0’	<5.0	<5.0	<5.0	<10	<50
B5-8.5’	<250	<250	<250	<500	<2,500
B5-11.5’	<5.0	<5.0	<5.0	<10	<50
B5-16.0’	<5.8	<5.8	<5.8	<12	<58
B5-21.0’	-	-	-	-	-

TABLE 10: Groundwater Elevations

Well ID	Date Measured	Well Casing Elevation (feet msl)	Depth to Groundwater (feet)	Groundwater Elevation (feet msl)
MW1	7/12/04	8.90	8.94	-0.04
	3/11/05		8.46	0.44
	6/23/05		8.69	0.21
MW2	7/12/04	9.25	9.77	-0.52
	3/11/05		9.38	-0.13
	6/23/05		8.57	0.68
MW3	7/12/04	9.93	10.31	-0.38
	3/11/05		10.01	-0.08
	6/23/05		10.18	-0.25
MW4	7/12/04	11.02	11.22	-0.20
	3/11/05		11.04	-0.02
	6/23/05		11.21	-0.19
MW5	3/11/05	10.11	9.73	0.38
	6/23/05		10.05	0.06

[1]msl = mean sea level.